

CLAIMS:

1. A display device having at least one picture element (18) having an optical switch comprising at least one first fluid (5) and a second fluid (6) immiscible with each other above a first support plate (3), the second fluid being electro-conductive or polar which display device has driving means (13,14,15) for applying to electrodes (7, 20, 21) of the optical switch voltages associated with a range of electro-optical states of the picture element between and including a first extreme state and a second extreme state said driving means providing during selection of a picture element variable voltages to said picture element.
2. A display device according to claim 1 comprising the fluids within a space between a first transparent support plate (3) and a second support plate (4).
3. A display device according to claim 1 in which the variable voltages comprise a set of alternating voltages (33) having a mean value substantially equal to a voltage (V_i) associated with an electro-optical state of the picture element to be set.
4. A display device according to claim 3 in which the variable voltages comprise a DC part and an AC part the maximum and minimum voltages of the alternating voltages having a root mean square average value substantially equal to a voltage associated with an electro-optical state of the picture element to be set.
5. A display device according to claim 4 comprising different time periods for parts of the variable voltage curves having voltage values above said root mean square average value and parts of the variable voltage curves having voltage values below said root mean square average value.
6. A display device according to claims 1 or 3 said driving means providing preceding voltages (35) to a picture element prior to said voltages associated with the electro-optical states.

7. A display device according to claim 6 in which the preceding voltages comprise a set of alternating voltages having an average value substantially equal to zero.
8. A display device according to claim 6 in which the preceding voltages
5 comprise a set of alternating voltages having an average value substantially equal to a voltage associated with an electro-optical state of the picture element to be set.
9. A display device according to claims 7 or 8 in which in driving at least one picture element the amplitude of the preceding voltages decreases.
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10. A display device according to claims 7 or 8 in which in driving at least one picture element the frequency of the preceding voltages increases.
11. A display device according to claims 7 or 8 in which the preceding voltages
15 have different values for different parts of the display.
12. A display device according to claims 7 or 8 in which the preceding voltages have different polarities for different parts of the display.
- 20 13. A display device according to claim 6 in which the preceding voltages comprise a voltage to said picture element bringing the picture element into one of the extreme states.
14. A display device according to claims 1 or 3 said driving means providing after
25 at least one selection period of a picture element driving voltages of opposite polarity to said picture element.
15. A display device having at least one picture element having an optical switch comprising at least one first fluid and a second fluid immiscible with each other within a
30 space on a first transparent support plate, the second fluid being electro-conductive or polar which display device has driving means for applying voltages to the electrodes associated within a range of electro-optical states of the picture element between and including a first extreme state and a second extreme state said driving means providing prior to selection of a

picture element a voltage to said picture element bringing the picture element into one of the extreme states.

16. A display device according to claim 15 comprising the fluids within a space
5 between a first transparent support plate (3) and a second support plate (4).

17. A display device according to claim 15 said driving means providing the voltages associated with a range of electro-optical states after at least one selection period after bringing the picture element into one of the extreme states.